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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,591	02/23/2004	Tien-Ho Gau	1291055	3197

7590 05/01/2006

PRO-TECTOR INTERNATIONAL  
20775 Norada Court  
Saratoga, CA 95070-3018

EXAMINER
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HWU, DAVIS D

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/785,591	<b>Applicant(s)</b> GAU ET AL	
	<b>Examiner</b> Davis D. Hwu	<b>Art Unit</b> 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Applicant's election with traverse of claims 2-11 in the reply filed on April 17, 2006 is acknowledged. Since Applicant has not argued that the restriction requirement is improper, the requirement is deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-5 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Heinzl et al.

Heinzl et al. shows a micro-droplet generator comprising a chamber 1 enclosed by a casing 2d and 2b, a spraying plate 2c having a plurality of holes placed on one side of the casing, a piezoelectric plate 4 mounted inside the chamber with a fixed end 4e fastened on the casing and a free end 4d performing bending movement of the plate 4, and a signal connector on one side of the fixed of the plate 4 as recited, wherein the piezoelectric plate 4 is made of a plurality of layers 4f and 4g of ceramic material as recited in claim 3. Regarding claim 5, as plate 4 bends, it eject droplets and when the plate moves back to the position of Figure 1, it will automatically draw in air and thus an exchange of liquid and air takes place through the spray holes and negative pressure in the chamber is regulated.

***Claim Rejections - 35 USC § 103***

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinzl et al. in view of Xu.

Xu teaches a spraying plate 24 comprising spraying holes that are narrowing and widening to discharge droplets in which such arrangement provides smaller droplet sizes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Heinzl et al. by replacing the spraying plate with a spraying plate having narrowing holes and widening holes as taught by Xu to provide smaller droplet sizes.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heinzl et al. in view of Miyazawa et al.

Miyazawa et al. teaches a droplet generator comprising a nozzle plate 30 having spray holes 32 in which the holes 32 are gradually narrowing holes which increases spray force. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Heinzl et al. by replacing the spraying plate with a spraying plate having narrowing holes as taught by Miyazawa et al. to increase the spray force.

### ***Conclusion***

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7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Peng et al. and Matoba et al. are pertinent to Applicant's invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis D. Hwu whose telephone number is 571-272-4904. The examiner can normally be reached on 8:00-4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on 571-272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Davis Hwu



**DAVIS HWU**  
**PRIMARY EXAMINER**